

# Adverse Event Reporting Use Case

## Vocabulary Integration Across the Clinical Domains

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# Fraternal Twins

- Hospital care – Clinical trial care
- Studies/procedures done at both
- Provision of care for complications of therapy at both
- Different information systems
- Different vocabularies
- Different CDEs

# Use Case

NCI wants complete data on adverse events. This requires integration of data on patients cared for in both clinical research centers and inpatient facilities. Clinical information systems in inpatient facilities have general vocabularies that do not integrate with the NCI CTCAE . There is a need for an ontology to cross walk between ICD-9, SNOMED and MEDRA that does so in a format to account for the complex terms used in the CTCAE v3 data elements.

MedDRA Code	MedDRA Preferred Term	DESCRIPTIONID	CONCEPTID
10002383	Angina pectoris	299757012	194828000
10002383	Angina pectoris	491923010	367416001
10002855	Anxiety	81133019	48694002
10002855	Anxiety	64004010	38237000
10003504	Aspiration	415870011	278847003
10003504	Aspiration	195646019	14766002
10003504	Aspiration	113049018	68052005
10007739	Cataract	298076010	193570009
10007739	Cataract	206591012	128306009
10012205	Delayed puberty	472354010	123526007
10012205	Delayed puberty	1779277011	400003000
10012378	Depression	380529010	255339005
10012378	Depression	486184015	35489007
10012378	Depression	68406014	41006004
10014080	Ecchymosis	443809016	302227002
10014080	Ecchymosis	128868017	77643000
10014866	Enteritis	1495632014	126767009
10014866	Enteritis	107385015	64613007
10016825	Flushing	34069013	20255002
10016825	Flushing	357921012	238810007
10018854	Haematoma	486214017	35566002
10018854	Haematoma	1476077014	385494008
10028600	Myocardial ischaemia	2161460016	32598000
10028600	Myocardial ischaemia	493072012	41702007

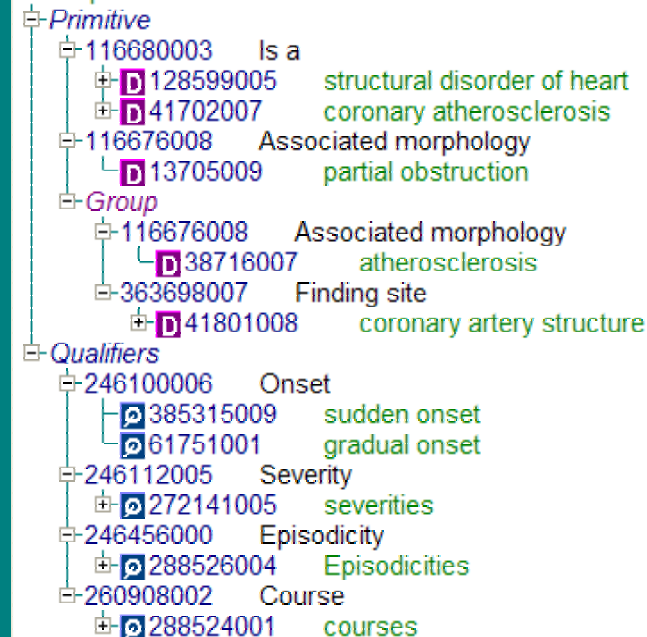
# Angina Pectoris Definition

- WordNet
  - a **heart condition** marked by paroxysms of chest pain due to reduced oxygen to the heart
- Merck Manual
  - temporary **chest pain** or a sensation of pressure that occurs while the heart muscle is not receiving enough oxygen

MedDRA Code	Adverse Events Category	MedDRA Preferred Term	DESCRIPTIONID	CONCEPTID
10002383	PAIN	Angina pectoris	299757012	194828000
10002383	PAIN	Angina pectoris	491923010	367416001
10002855	NEUROLOGY	Anxiety	81133019	48694002
10002855	NEUROLOGY	Anxiety	64004010	38237000
10003504	PULMONARY/UPPER RESPIRATORY	Aspiration	415870011	278847003
10003504	PULMONARY/UPPER RESPIRATORY	Aspiration	195646019	14766002
10003504	PULMONARY/UPPER RESPIRATORY	Aspiration	113049018	68052005
10007739	OCULAR/VISUAL	Cataract	298076010	193570009
10007739	OCULAR/VISUAL	Cataract	206591012	128306009
10012205	GROWTH AND DEVELOPMENT	Delayed puberty	472354010	123526007
10012205	GROWTH AND DEVELOPMENT	Delayed puberty	1779277011	400003000
10012378	NEUROLOGY	Depression	380529010	255339005
10012378	NEUROLOGY	Depression	486184015	35489007
10012378	NEUROLOGY	Depression	68406014	41006004
10014080	DERMATOLOGY/SKIN	Ecchymosis	443809016	302227002

# Angina Pectoris - SNOMED

## ConceptStatus Current



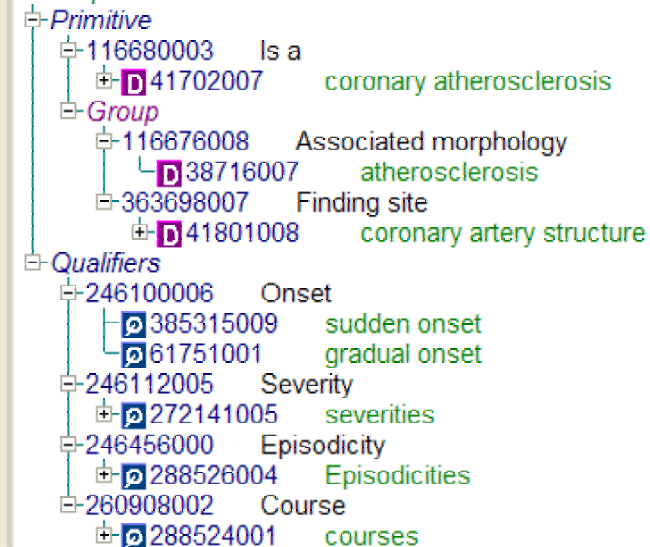
## Descriptions

- [F] 775478019 angina pectoris (disorder)
- [P] 491923010 angina pectoris
- [S] 491924016 angina pectoris, NOS
- [S] 491925015 angina, NOS

## Legacy codes

- [SNOMED]: D3-1301E
- [CTV3ID]: XUD7U

## ConceptStatus Current



## Descriptions

- [F] 578858017 angina (disorder)
- [P] 299755016 angina
- [S] 299756015 cardiac angina
- [S] 299757012 angina pectoris
- [S] 299758019 stenocardia
- [S] 299759010 Anginal syndrome
- [S] 299760017 AP - Angina pectoris
- [S] 299761018 ischemic heart disease - angina
- [S] 299762013 ischaemic heart disease - angina

## Legacy codes

- [SNOMED]: D3-13012

# Angina Pectoris – ICD-9-CM

## ISCHEMIC HEART DISEASE (410-414)

Includes: that with mention of hypertension

Use additional code to identify presence of hypertension (401.0-405.9)

413 Angina pectoris

413.0 Angina decubitus

Nocturnal angina

413.1 Prinzmetal angina

Variant angina pectoris

413.9 Other and unspecified angina  
pectoris

Angina:

NOS

cardiac  
of effort

Anginal syndrome

Status anginosus

Stenocardia

Syncope anginosa

Excludes: preinfarction angina (411.1)



# Ambiguity

## INFECTION

Not explicit

AE/Supra-ordinate Term
Infection (documented clinically or microbiologically) with Grade 3 or 4 neutrophils (ANC < 1 x 10 <sup>9</sup> )

Ambiguous and discordant

Multiple data type

AE/Supra-ordinate Term	Select AE	MedDRA Preferred Term	MedDRA Code
Infection (documented clinically or microbiologically) with Grade 3 or 4 neutrophils (ANC	Wound	Not available	90030304

What is the coding system?

# Code Translation

## MUSCULOSKELETAL/SOFT TISSUE

AE/Supra-ordinate Term	Select AE	MedDRA Preferred Term	MedDRA Code
Soft tissue necrosis	Abdomen	Not available	90030548

Requires post-coordination in  
SNOMED

No equivalent ICD-9 CM

11899010 necrosis

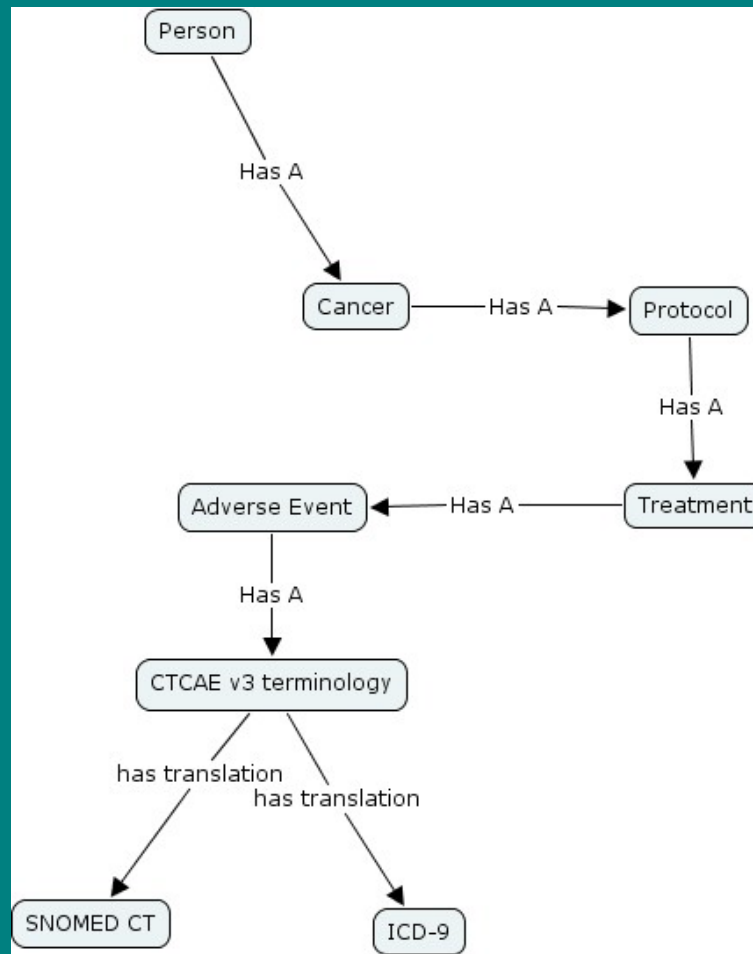
485017014 finding site

501391018 structure of soft tissues of abdomen

# Questions

- What is the coding system for CTC?
- Are the terms truly individual concepts?
- Is it possible to use this terminology to integrate adverse event reporting across domains?

# Ontology Concept Map



# HL7 V3 CD dataType

soft tissue necrosis of the abdomen (type=CD)

Name: soft tissue necrosis of the abdomen

Role: Concrete

Documentation:

Constraints:

Template Slots:

Name	Type	Cardinality	Other Facets
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Code: 11899010

NullFlavor:

CodedSystemVersion: 0401core

CodeSystem: 2.16.840.1.113883.6.5

CodeSystemName: SNOMED CT

OriginalText: soft tissue necrosis of the abdomen

DisplayName: necrosis

Modifier: finding site

Translation: